

SEQUENCE LISTING

<110> Newman, Walter

<120> HMGB1 COMBINATION THERAPIES

<130> 3258.1008-001

<150> 60/427,846

<151> 2002-11-20

<160> 58

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 215

<212> PRT

<213> Homo sapiens

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Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
20 25 30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
65 70 75 80
Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
85 90 95
Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
100 105 110
Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
115 120 125
Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
130 135 140
Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
145 150 155 160
Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
165 170 175
Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
180 185 190
Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Asp Glu Asp Glu
195 200 205
Glu Glu Asp Asp Asp Asp Glu
210 215

<210> 2

<211> 215

<212> PRT

<213> Mus musculus

<400> 2
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 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
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 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Asp Asp Glu Glu
 180 185 190
 Asp Glu Glu Asp Glu Glu Glu Glu Glu Glu Asp Glu Asp Glu
 195 200 205
 Glu Glu Asp Asp Asp Asp Glu
 210 215

<210> 3
<211> 209
<212> PRT
<213> Homo sapiens

<400> 3
 Met Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
 20 25 30
 Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro
 65 70 75 80
 Pro Lys Gly Asp Lys Lys Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu His Arg Pro Lys
 100 105 110
 Ile Lys Ser Glu His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Ser Glu Gln Ser Ala Lys Asp Lys Gln Pro Tyr
 130 135 140
 Glu Gln Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160

Ala Tyr Arg Ala Lys Gly Lys Ser Glu Ala Gly Lys Lys Gly Pro Gly
 165 170 175
 Arg Pro Thr Gly Ser Lys Lys Lys Asn Glu Pro Glu Asp Glu Glu Glu
 180 185 190
 Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Asp Glu Asp Glu Asp Glu
 195 200 205
 Glu

<210> 4
<211> 54
<212> PRT
<213> Homo sapiens

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 Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu
 1 5 10 15
 Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
 20 25 30
 Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile
 35 40 45
 Pro Pro Lys Gly Glu Thr
 50

<210> 5
<211> 69
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<213> Homo sapiens

<400> 5
 Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu
 1 5 10 15
 Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp
 20 25 30
 Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp
 35 40 45
 Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu
 50 55 60
 Lys Asp Ile Ala Ala
 65

<210> 6
<211> 22
<212> DNA
<213> Homo sapiens

<400> 6
 gatgggcaaa ggagatccta ag

<210> 7
<211> 29
<212> DNA
<213> Homo sapiens

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| <400> 7 | |
| gcggccgctt attcatcatc atcatcttc | 29 |
| <210> 8 | |
| <211> 22 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 8 | |
| gatgggcaaa ggagatccta ag | 22 |
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| <211> 32 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 9 | |
| gcggccgctc acttgaaaa ttcagccttg ac | 32 |
| <210> 10 | |
| <211> 21 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 10 | |
| gagcataaga agaaggcaccc a | 21 |
| <210> 11 | |
| <211> 32 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 11 | |
| gcggccgctc acttgaaaa ttcagccttg ac | 32 |
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| <211> 24 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 12 | |
| aagttcaagg atcccaatgc aaag | 24 |
| <210> 13 | |
| <211> 32 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 13 | |
| gcggccgctc aatatgcagc tatatccttt tc | 32 |
| <210> 14 | |
| <211> 22 | |
| <212> DNA | |
| <213> Homo sapiens | |
| <400> 14 | |

gatgggcaaa ggagatccta ag

22

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<400> 15
tcactttttt gtctcccctt tggg

24

<210> 16
<211> 20
<212> PRT
<213> Homo sapiens

<400> 16
Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu
1 5 10 15
Tyr Arg Pro Lys
20

<210> 17
<211> 54
<212> PRT
<213> Homo sapiens

<400> 17
Pro Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met
20 25 30
Ala Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val
35 40 45
Pro Pro Lys Gly Asp Lys
50

<210> 18
<211> 216
<212> PRT
<213> Homo sapiens

<400> 18
Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys His Pro
20 25 30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
65 70 75 80
Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
85 90 95
Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys

| | | |
|---|-----|-----|
| 100 | 105 | 110 |
| Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys | | |
| 115 | 120 | 125 |
| Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr | | |
| 130 | 135 | 140 |
| Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala | | |
| 145 | 150 | 155 |
| Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val | | |
| 165 | 170 | 175 |
| Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu | | |
| 180 | 185 | 190 |
| Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Asp Glu Glu Asp | | |
| 195 | 200 | 205 |
| Glu Glu Glu Asp Asp Asp Asp Glu | | |
| 210 | 215 | |

<210> 19
<211> 182
<212> PRT
<213> Homo sapiens

| | | | |
|---|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr | | | |
| Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro | | | |
| 20 | 25 | 30 | |
| Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg | | | |
| 35 | 40 | 45 | |
| Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala | | | |
| 50 | 55 | 60 | |
| Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro | | | |
| 65 | 70 | 75 | 80 |
| Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys | | | |
| 85 | 90 | 95 | |
| Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys | | | |
| 100 | 105 | 110 | |
| Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys | | | |
| 115 | 120 | 125 | |
| Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr | | | |
| 130 | 135 | 140 | |
| Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala | | | |
| 145 | 150 | 155 | 160 |
| Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val | | | |
| 165 | 170 | 175 | |
| Lys Ala Glu Lys Ser Lys | | | |
| 180 | | | |

<210> 20
<211> 74
<212> PRT
<213> Homo sapiens

| | | | |
|---|---|----|----|
| 1 | 5 | 10 | 15 |
| Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu | | | |

Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
 20 25 30
 Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
 35 40 45
 Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
 50 55 60
 Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
 65 70

<210> 21
<211> 85
<212> PRT
<213> Homo sapiens

<400> 21
 Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys His Pro
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr
 85

<210> 22
<211> 77
<212> PRT
<213> Homo sapiens

<400> 22
 Pro Thr Gly Lys Met Ser Ser Tyr Ala Phe Phe Val Gln Thr Cys Arg
 1 5 10 15
 Glu Glu His Lys Lys His Pro Asp Ala Ser Val Asn Phe Ser Glu
 20 25 30
 Phe Ser Lys Lys Cys Ser Glu Arg Trp Lys Thr Met Ser Ala Lys Glu
 35 40 45
 Lys Gly Lys Phe Glu Asp Met Ala Lys Ala Asp Lys Ala Arg Tyr Glu
 50 55 60
 Arg Glu Met Lys Thr Tyr Ile Pro Pro Lys Gly Glu Thr
 65 70 75

<210> 23
<211> 20
<212> PRT
<213> Homo sapiens

<400> 23
 Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu
 1 5 10 15
 Phe Cys Ser Glu

<210> 24
<211> 216
<212> PRT
<213> *Homo sapiens*

<400> 24
 Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Glu Asp Glu Glu
 180 185 190
 Asp Glu Glu Asp Glu Glu Glu Glu Glu Asp Glu Glu Asp Glu Glu Asp
 195 200 205
 Glu Glu Glu Asp Asp Asp Glu
 210 215

<210> 25
<211> 211
<212> PRT
<213> *Homo sapiens*

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<400> 25
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr
      5          10          15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Ser
      20          25          30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu Arg
      35          40          45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
      50          55          60
Lys Ala Asp Lys Thr His Tyr Glu Arg Gln Met Lys Thr Tyr Ile Pro
      65          70          75          80
Pro Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
      85          90          95

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Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr His Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Gly
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Gln Ala Lys Gly Lys Pro Glu Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
 180 185 190
 Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Asp Glu Asp Asp Asp
 195 200 205
 Asp Asp Glu
 210

<210> 26
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 26

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Gly | Asp | Pro | Lys | Lys | Pro | Arg | Gly | Lys | Met | Ser | Ser | Tyr |
| 1 | | | | | 5 | | | 10 | | | | 15 | | | |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg | Glu | Glu | Cys | Lys | Lys | His | Pro | |
| | | | | | 20 | | | 25 | | | | 30 | | | |
| Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu | Arg |
| | | | | | 35 | | | 40 | | | | 45 | | | |
| Trp | Lys | Ala | Met | Ser | Ala | Lys | Asp | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |
| | | | | | 50 | | | 55 | | | 60 | | | | |
| Lys | Val | Asp | Lys | Asp | Arg | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |
| | | | | | 65 | | | 70 | | | 75 | | | 80 | |
| Pro | Lys | Gly | Glu | Thr | Lys | Lys | Phe | Glu | Asp | Ser | Asn | Ala | Pro | Lys | |
| | | | | | 85 | | | 90 | | | 95 | | | | |
| Arg | Pro | Pro | Ser | Ala | Phe | Leu | Leu | Phe | Cys | Ser | Glu | Tyr | Cys | Pro | Lys |
| | | | | | 100 | | | 105 | | | 110 | | | | |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Pro | Ile | Ser | Asp | Val | Ala | Lys | Lys |
| | | | | | 115 | | | 120 | | | 125 | | | | |
| Leu | Val | Glu | Met | Trp | Asn | Asn | Thr | Phe | Ala | Asp | Asp | Lys | Gln | Leu | Cys |
| | | | | | 130 | | | 135 | | | 140 | | | | |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Lys | Lys | Asp | Thr | Ala |
| | | | | | 145 | | | 150 | | | 155 | | | 160 | |
| Thr | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asp | Ala | Ala | Lys | Lys | Gly | Val | Val |
| | | | | | 165 | | | 170 | | | 175 | | | | |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Glu | Glu | Glu | | | | | |
| | | | | | 180 | | | 185 | | | | | | | |

<210> 27
 <211> 205
 <212> PRT
 <213> Homo sapiens

<400> 27

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Lys | Ala | Asp | Pro | Lys | Lys | Leu | Arg | Gly | Glu | Met | Leu | Ser | Tyr |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| 1 | 5 | | | | | 10 | | | | | 15 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Gln | Glu | Glu | His | Lys | Lys | Lys | Asn | Pro |
| | | | | 20 | | | | 25 | | | | | | 30 | |
| Asp | Ala | Ser | Val | Lys | Phe | Ser | Glu | Phe | Leu | Lys | Lys | Cys | Ser | Glu | Thr |
| | | | | 35 | | | | 40 | | | | 45 | | | |
| Trp | Lys | Thr | Ile | Phe | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Lys | Ala | Asp | Lys | Ala | His | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |
| | 65 | | | | 70 | | | | | 75 | | | | 80 | |
| Pro | Lys | Gly | Glu | Lys | Lys | Lys | Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys | |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Arg | Pro | Pro | Leu | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys |
| | | | | 100 | | | | 105 | | | | 110 | | | |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Asp | Asp | Val | Val | Lys | Lys |
| | | | | 115 | | | | 120 | | | | 125 | | | |
| Leu | Ala | Gly | Met | Trp | Asn | Asn | Thr | Ala | Ala | Ala | Asp | Lys | Gln | Phe | Tyr |
| | | | | 130 | | | | 135 | | | | 140 | | | |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Lys | Lys | Asp | Ile | Ala |
| | 145 | | | | 150 | | | | | 155 | | | | 160 | |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asn | Ser | Ala | Lys | Lys | Arg | Val | Val |
| | | | | 165 | | | | | 170 | | | | 175 | | |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Lys | Glu | Glu | Glu | Asp | Glu | Glu | |
| | | | | 180 | | | | 185 | | | | 190 | | | |
| Asp | Glu | Gln | Glu | Glu | Asn | Glu | Glu | Asp | Asp | Asp | Lys | | | | |
| | | | | 195 | | | | 200 | | | | 205 | | | |

<210> 28
<211> 80
<212> PRT
<213> *Homo sapiens*

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<400> 28
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Cys
   1           5           10          15
Ala Phe Phe Val Gln Thr Cys Trp Glu Glu His Lys Lys Gln Tyr Pro
   20          25          30
Asp Ala Ser Ile Asn Phe Ser Glu Phe Ser Gln Lys Cys Pro Glu Thr
   35          40          45
Trp Lys Thr Thr Ile Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Pro
   50          55          60
Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
   65          70          75          80

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<210> 29
<211> 80
<212> PRT
<213> *Homo sapiens*

<400> 29
Lys Gln Arg Gly Lys Met Pro Ser Tyr Val Phe Cys Val Gln Thr Cys
1 5 10 15
Pro Glu Glu Arg Lys Lys Lys His Pro Asp Ala Ser Val Asn Phe Ser
20 25 30
Glu Phe Ser Lys Lys Cys Leu Val Arg Gly Lys Thr Met Ser Ala Lys
35 40 45

11/19

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Lys | Gly | Gln | Phe | Glu | Ala | Met | Ala | Arg | Ala | Asp | Lys | Ala | Arg | Tyr |
| 50 | | | | | 55 | | | | 60 | | | | | | |
| Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro | Pro | Lys | Gly | Glu | Thr | Lys | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |

<210> 30
<211> 86
<212> PRT
<213> Homo sapiens

<400> 30
Met Gly Lys Arg Asp Pro Lys Gln Pro Arg Gly Lys Met Ser Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Ala Gln Glu His Lys Lys Lys Gln Leu
20 25 30
Asp Ala Ser Val Ser Phe Ser Glu Phe Ser Lys Asn Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Val Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Cys Tyr Glu Arg Glu Met Lys Ile Tyr Pro Tyr
65 70 75 80
Leu Lys Gly Arg Gln Lys
85

<210> 31
<211> 70
<212> PRT
<213> Homo sapiens

<400> 31
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Glu Lys Met Pro Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Cys Arg Glu Ala His Lys Asn Lys His Pro
20 25 30
Asp Ala Ser Val Asn Ser Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Pro Thr Lys Gln Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Arg Ala His
65 70

<210> 32
<211> 648
<212> DNA
<213> Homo sapiens

<400> 32
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caaacttgc gggaggagca taagaagaag caccagatg cttagtcaa ctttcagag 120
tttcttcaaga agtgctcaga gaggttgaag accatgtctg ctaaagagaa aggaaaattt 180
gaagatatgg caaaggcgga caaggcccgt tatgaaaagag aaatgaaaac ctatatccct 240
cccaaagggg agacaaaaaa gaagtcaag gatccaatg caccgaagag gcttccttcg 300
gccttcttcc tcttctgctc tgagtatcgc ccaaaaatca aaggagaaca tcctggcctg 360
tccatttgtg atgttgc当地 gaaactggga gagatgtgga ataacactgc tgcagatgac 420

aagcagccctt atgaaaaagaa ggctgcgaag ctgaaggaaa aatacgaaaa ggatatacg 480
 gcatatcgag ctaaaggaaa gcctgatgca gcaaaaaagg gagttgtcaa ggctgaaaaa 540
 agcaagaaaa agaaggaga ggaggaagat gaggaagatg aagaggatga ggaggaggag 600
 gaagatgaag aagatgaaga agatgaagaa gaagatgatg atgatgaa 648

<210> 33
 <211> 633
 <212> DNA
 <213> Homo sapiens

<400> 33
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 caaacTTGTC gggaggAGCA taagaAGAAG cactCAGATG cttcAGTCAA cttCTCAGAG 120
 ttttctaaca agtgCTCAGA gaggtGGAAG accatGTCTG ctaaAGAGAA aggAAAATT 180
 gaggatATGG caaAGGCAGA caAGACCCAT tatGAAAGAC aaATGAAAAC ctatATCCCT 240
 cccAAAGGGG agacaAAAAAA gaagtTCAAG gatCCCAATG caccCAAGAG gcCTCCTCG 300
 gcTTCTTCG tgTTCTGCTC tgAGTATCAC ccaAAATCA aaggAGAAACA tcCTGGCCTG 360
 tcCATTGGTG atgtTGCAGA gaaACTGGGA gagatGTGGA ataACACTGC tgCAGATGAC 420
 aagcAGCCTG gtGAAAAGAA ggCTGCGAG ctGAAGGAAA aataCGAAAAGG ggatATTGCT 480
 gcatatcaAG ctaaAGGAAA gcCTGAGGCA gcaAAAAAGG gagttgtCAA agCTGAAAAAA 540
 agcaagaaaa agaaggaga ggaggaagat gaggaagatg aagaggatga ggaggaggaa 600
 gatgaagaag atgaagaaga tgatgatgat gaa 633

<210> 34
 <211> 564
 <212> DNA
 <213> Homo sapiens

<400> 34
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 caaacTTGTC gggaggAGTG taagaAGAAG cacCCAGATG cttcAGTCAA cttCTCAGAG 120
 ttttctaaga agtgCTCAGA gaggtGGAAG gCCATGTCTG ctaaAGATAA aggAAAATT 180
 gaagatATGG caaAGGTGGA caaAGACCCTG tatGAAAGAG aaATGAAAAC ctatATCCCT 240
 cctAAAGGGG agacaAAAAAA gaagtTcAGG gattCCAAATG caccCAAGAG gcCTCCTCG 300
 gcCTTTTGC tgTTCTGCTC tgAGTATTGc ccaAAATCA aaggAGAGCA tcCTGGCCTG 360
 cctattAGCG atgtTcAAAAGAA gaaACTGGTA gagatGTGGA ataACACTTT tgCAGATGAC 420
 aagcAGCTT gtGAAAAGAA ggCTGCAAAG ctGAAGGAAA aataCAAAAAGG ggatACAGCT 480
 acatATCGAG ctaaAGGAAA gcCTGATGCA gcaAAAAAGG gagttgtCAA ggCTGAAAAAA 540
 agcaagaaaa agaaggaga ggag 564

<210> 35
 <211> 615
 <212> DNA
 <213> Homo sapiens

<400> 35
 atggacAAAG cagatcctaa gaagCTGAGA ggtGAAATGT tatcatatgc attttttgtg 60
 caaacTTGTC aggAGGAGCA taagaAGAAG aaccCAGATG cttcAGTCAA gttCTCAGAG 120
 tttttaAGA agtgCTCAGA gacatGGAG ACCATTGAG ctaaAGAGAA aggAAAATT 180
 gaagatATGG caaAGGCAGA caAGGCCCAT tatGAAAGAG aaATGAAAAC ctatATCCCT 240
 cctAAAGGGG agaaaaAAAAGA gaagtTCAAG gatCCCAATG caccCAAGAG gcCTCCTCG 300
 gcCTTTTCC tgTTCTGCTC tgAGTATCGC ccaAAATCA aaggAGAAACA tcCTGGCCTG 360
 tcCATTGATG atgtTGTGAA gaaACTGGCA gggatGTGGA ataACACCGC tgCAGCTGAC 420
 aagcAGTTT atgaaaaAGAA ggCTGCAAAG ctGAAGGAAA aataCAAAAAGG ggatATTGCT 480
 gcatatCGAG ctaaAGGAAA gcCTAATTCA gcaAAAAAGA gagttgtCAA ggCTGAAAAAA 540
 agcaagaaaa agaaggaga ggaAGAAGAT gaagaggatg aacaAGAGGA ggAAAATGAA 600
 gaagatgatg ataaa 615

<210> 36
<211> 240
<212> DNA
<213> Homo sapiens

<400> 36
atggccaag gagatcctaa gaagccgaga ggcaaaatgt catcatgtgc atttttgtg 60
caaacttgtt gggaggagca taagaagcag taccagatg cttcaatcaa cttctcagag 120
tttctcaga agtgcccaga gacgtggaag accacgattg ctaaagagaa aggaaaattt 180
gaagatatgc caaaggcaga caaggccat tatgaaagag aaatgaaaac ctatatacc 240

<210> 37
<211> 240
<212> DNA
<213> Homo sapiens

<400> 37
aaacagagag gcaaaatgcc atcgatatgtt ttttgtgc aaacttgtcc ggaggagcgt 60
aagaagaaac acccagatgc ttctcagatgtt tttctaagaa gtgcttagtg 120
aggggaaaga ccatgtctgc taaagagaaa ggacaattt aagctatggc aagggcagac 180
aaggccccgtt acgaaagaga aatgaaaaca tatatccctc ctaaagggga gacaaaaaaaa 240

<210> 38
<211> 258
<212> DNA
<213> Homo sapiens

<400> 38
atgggcaaaa gagaccctaa gcagccaaga ggcaaaatgt catcatatgc atttttgtg 60
caaactgctc aggaggagca caagaagaaa caactagatg cttcagtctg tttctcagag 120
tttctaaga actgctcaga gaggtggaag accatgtctg ttaaagagaa aggaaaattt 180
gaagacatgg caaaggcaga caaggccctgt tatgaaagag aaatgaaaat atatccctac 240
ttaaagggga gacaaaaaa 258

<210> 39
<211> 211
<212> DNA
<213> Homo sapiens

<400> 39
atgggcääag gagaccctaa gaagccaaga gagaatgc catcatatgc atttttgtg 60
caaacttgtt gggaggcaca taagaacaaa catccagatg cttcagtcaa ctcctcagag 120
tttctaaga agtgctcaga gaggtggaag accatgccta ctaaacagaa aggaaaattc 180
gaagatatgg caaaggcaga cagggccat a 211

<210> 40
<211> 54
<212> PRT
<213> Homo sapiens

<400> 40
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30

Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 41
<211> 53
<212> PRT
<213> Homo sapiens

<400> 41
Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg
1 5 10 15
Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala
20 25 30
Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro
35 40 45
Pro Lys Gly Asp Lys
50

<210> 42
<211> 54
<212> PRT
<213> Homo sapiens

<400> 42
Pro Glu Val Pro Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Val Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met
20 25 30
Ala Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly
35 40 45
Pro Ala Lys Gly Gly Lys
50

<210> 43
<211> 54
<212> PRT
<213> Homo sapiens

<400> 43
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 44
<211> 54
<212> PRT

<213> Homo sapiens

<400> 44
Ser Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Thr His Tyr Glu Arg Gln Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 45

<211> 54

<212> PRT

<213> Homo sapiens

<400> 45
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Ala Met Ser Ala Lys Asp Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Val Asp Lys Ala Asp Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 46

<211> 54

<212> PRT

<213> Homo sapiens

<400> 46
Pro Asp Ala Ser Val Lys Phe Ser Glu Phe Leu Lys Lys Cys Ser Glu
1 5 10 15
Thr Trp Lys Thr Ile Phe Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Lys
50

<210> 47

<211> 54

<212> PRT

<213> Homo sapiens

<400> 47
Pro Asp Ala Ser Ile Asn Phe Ser Glu Phe Ser Gln Lys Cys Pro Glu
1 5 10 15
Thr Trp Lys Thr Thr Ile Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45

Pro Pro Lys Gly Glu Thr
50

<210> 48
<211> 38
<212> PRT
<213> Homo sapiens

<400> 48
Pro Asp Ala Ser Val Asn Ser Ser Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Pro Thr Lys Gln Gly Lys Phe Glu Asp Met Ala
20 25 30
Lys Ala Asp Arg Ala His
35

<210> 49
<211> 54
<212> PRT
<213> Homo sapiens

<400> 49
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Leu Val
1 5 10 15
Arg Gly Lys Thr Met Ser Ala Lys Glu Lys Gly Gln Phe Glu Ala Met
20 25 30
Ala Arg Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 50
<211> 54
<212> PRT
<213> Homo sapiens

<400> 50
Leu Asp Ala Ser Val Ser Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Val Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Ala Cys Tyr Glu Arg Glu Met Lys Ile Tyr Pro
35 40 45
Tyr Leu Lys Gly Arg Gln
50

<210> 51
<211> 74
<212> PRT
<213> Homo sapiens

<400> 51
Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu

<210> 52
<211> 74
<212> PRT
<213> *Homo sapiens*

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<400> 52
Lys Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu
      5          10          15
Phe Cys Ser Glu His Arg Pro Lys Ile Lys Ser Glu His Pro Gly Leu
      20          25          30
Ser Ile Gly Asp Thr Ala Lys Lys Leu Gly Glu Met Trp Ser Glu Gln
      35          40          45
Ser Ala Lys Asp Lys Gln Pro Tyr Glu Gln Lys Ala Ala Lys Leu Lys
      50          55          60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
65          70

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<210> 53
<211> 74
<212> PRT
<213> *Homo sapiens*

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<400> 53
Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu
      5          10          15
Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
      20          25          30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
      35          40          45
Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
      50          55          60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
      65          70

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<210> 54
<211> 74
<212> PRT.
<213> *Homo sapiens*

<400> 54
Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu
1 5 10 15
Phe Cys Ser Glu Tyr His Pro Lys Ile Lys Gly Glu His Pro Gly Leu
20 25 30

Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
 35 40 45
 Ala Ala Asp Asp Lys Gln Pro Gly Glu Lys Lys Ala Ala Lys Leu Lys
 50 55 60
 Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
 65 70

<210> 55
 <211> 74
 <212> PRT
 <213> Homo sapiens

<400> 55
 Phe Lys Asp Ser Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Leu Leu
 1 5 10 15
 Phe Cys Ser Glu Tyr Cys Pro Lys Ile Lys Gly Glu His Pro Gly Leu
 20 25 30
 Pro Ile Ser Asp Val Ala Lys Lys Leu Val Glu Met Trp Asn Asn Thr
 35 40 45
 Phe Ala Asp Asp Lys Gln Leu Cys Glu Lys Lys Ala Ala Lys Leu Lys
 50 55 60
 Glu Lys Tyr Lys Lys Asp Thr Ala Thr Tyr
 65 70

<210> 56
 <211> 74
 <212> PRT
 <213> Homo sapiens

<400> 56
 Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu
 1 5 10 15
 Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
 20 25 30
 Ser Ile Gly Asp Val Val Lys Lys Leu Ala Gly Met Trp Asn Asn Thr
 35 40 45
 Ala Ala Ala Asp Lys Gln Phe Tyr Glu Lys Lys Ala Ala Lys Leu Lys
 50 55 60
 Glu Lys Tyr Lys Lys Asp Ile Ala Ala Tyr
 65 70

<210> 57
 <211> 84
 <212> PRT
 <213> Homo sapiens

<400> 57
 Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala
 1 5 10 15
 Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp
 20 25 30
 Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp
 35 40 45
 Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala Lys

19/19

50 55 60
Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro
65 70 75 80
Lys Gly Glu Thr

<210> 58
<211> 92
<212> PRT
<213> Homo sapiens

<400> 58
Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu
1 5 10 15
Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
20 25 30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
35 40 45
Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
50 55 60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr Arg Ala Lys Gly Lys Pro
65 70 75 80
Asp Ala Ala Lys Lys Gly Val Val Lys Ala Glu Lys
85 90.